

POSTER ABSTRACT ADDENDUM

P68a

MEASURING INCREASES IN MESOLIMBIC DOPAMINE AND RELATED SUBSTANCES IN RESPONSE TO SYSTEMIC NICOTINE USING IN VIVO ELECTROCHEMISTRY. G.C. Parker and P.B.S. Clarke Dept. of Pharmacology, McGill University, Montreal, Canada H3G 1Y6.

Many of the psychopharmacological properties of tobacco smoking are believed to be mediated by central nicotinic receptors (nAChRs). The locomotor stimulant and reinforcing effects of nicotine in rats are blocked by a selective loss of mesolimbic dopamine innervating the ventral striatum. Using selective and non-selective electrochemical probes, we have monitored the release of DA alone and also the levels of DOPAC and ascorbate, in the nucleus accumbens following systemic administration of nicotine (0.4 mg/kg s.c.) in unanaesthetized freely-moving rats. The increase in current observed at the dopamine-selective probe was seen to be maximal within 20 min and returned to baseline after 60 min. In contrast, the increase in signal at the non-selective probe was maximal at 2 hr and returned to baseline after 5 hr. The superior frequency of sampling afforded by in vivo electrochemistry has clear advantages. In particular, it should enable us to characterize rapid neurochemical changes in response to nicotine when the drug is given in ways that more closely mimic the pharmacokinetics of smoking.

P91

CHRONIC NICOTINE-INDUCED COGNITIVE FACILITATION ARE CORRELATED WITH CHANGES IN THE NICOTINE BINDING SITES. F.A. Abdulla, E.J. Bradbury, M.-R. Calaminici, S. Wonnacott, J.D. Stephenson, J.D. Sinden and J.A. Gray, Dept. of Pharmacology, University of Alberta, Canada, Depts. of Neuroscience and Psychology, Institute of Psychiatry, London, and Dept. of Biochemistry, University of Bath, Bath, U.K.

The present study investigated the role of nicotinic receptors in chronic nicotine-induced cognitive facilitation. (-)-Nicotine tartrate (2mg/kg) and mecamylamine (1.0 mg/kg) were administered to different groups of rats twice daily for 10 days. A third group received the same dose of nicotine for one day and the vehicle (saline) for 9 days. Beginning 24h after the final drug injection, the rats were compared to a vehicle control group on acquisition of a hidden platform in the Morris water maze over 20 trials with 30-min inter-trial interval. The rats were killed 48h after the last drug injection and their frontal cortex (FC), entorhinal cortex (EC), posterior cingulate cortex (PC), dorsal hippocampus (DH) and ventral hippocampus (VH) were rapidly dissected to be assayed for nicotinic binding sites. Chronic treatment with nicotine significantly increased the number of FC, EC and DH but not the PC or the VH binding sites and improved the rate of learning. Chronic treatment with mecamylamine significantly increased the number of FC but not the other regions nicotinic receptors and decreased the rate of learning. Nicotine given for one day increased the EC (but not other regions) binding sites and increased the rate of learning but failed to match the rats receiving nicotine for 10 days. There were significant correlations between the EC, DH and PC (but not FC or VH) nicotinic receptor numbers and the rate of learning during acquisition but not with performance at asymptote. The results may indicate that chronic nicotine increased cholinergic transmission which in turn induced learning facilitation. Supported by R.J. Reynolds Tobacco Co.

2048712313

FIRST AUTHOR INDEX

A

ABDULLA, F.A.	P75
ABDULLA, F.A.	P91
ADLKOFE, F.X.	S3
ALLEN, R.	P8
ARNERIC, S.P.	P23
AUBERT, I.	P6

B

BALDINGER, B.	P97
BALFOUR, D.J.K.	S28
BARON, J.A.	S42
BENCHERIF, M.	P43
BENOWITZ, N.L.	S2
BENWELL, M.E.M.	P66
BENWELL, M.E.M.	P67
BERG, D.	S8
BERTRAND, D.	S7
BIENVENU, B.	P52
BIRRELL, C.E.	P106
BLOMQVIST, O.	P107
BOOKER, T.K.	P58
BOUHAIJ, M.	P135
BUCCAFUSCO, J.J.	P29
BULLOCK, A.E.	P50
BULLOCK, A.E.	P59
BUSKE-KIRSCHBAUM, A.	P89
BYRD, G.D.	P127
BYRD, G.D.	P131

C

CAGGIULA, A.R.	P101
CAGGIULA, A.R.	S14
CALDWELL, W.S.	P130
CHAHINE, R.	P77
CHANGEUX, J.-P.	S9
CHOLERTON, S.	P132
CHOLERTON, S.	P133
CLARKE, P.B.S.	S1
CODIGNOLA, A.	P51
COHEN, B.	P12
COLLINS, A.C.	S37

2048712314

FIRST AUTHOR INDEX

CONZE, C.	.....	P116
COOPER, E.	.....	S18
CORRIGALL, W.A.	.....	S27
CROOKS, P.A.	.....	P126
CRUZ, S.L.	.....	P76
D		
DAMAJ, M.I.	.....	P33
DAVILA-GARCIA, M.I.	.....	P36
DE FIEBRE, C.M.	.....	P14
DECKER, M.W.	.....	P28
DOMINO, E.F.	.....	P115
DONNELLY-ROBERTS, D.L.	.....	P39
DOOLITTLE, D.	.....	P136
DOWELL, R.T.	.....	P86
DUKAT, M.	.....	P31
DWOSKIN, L.P.	.....	P64
E		
EL-BIZRI, H.	.....	P46
EL-BIZRI, H.	.....	P47
ELGOYHEN, A.B.	.....	P7
F		
FIEDLER, W.	.....	P18
FORNASARI, D.	.....	P11
FREEDMAN, R.	.....	S41
G		
GHELARDINI, C.	.....	P108
GOERIG, M.	.....	S23
GORDON, J.	.....	P15
GOTTI, C.	.....	S5
GRADY, S.R.	.....	P60
GRUNBERG, N.E.	.....	P90
H		
HAJOS, M.	.....	P73
HASENFRATZ, M.	.....	P98
HEISHMAN, S.J.	.....	P96
HELLER, W.-D.	.....	P120
HENNINGFIELD, J.E.	.....	S33

2048712315

FIRST AUTHOR INDEX

HINDMARCH, I.	.....	S25
HIRAMATSU, M.	.....	P94
HOLLADAY, M.W.	.....	P24
HOLLT, V.	.....	S22
HOUDI, A.A.	.....	P102
HSU, Y.N.	.....	P44
HUGHES, J.R.	.....	S40
J		
JACOB, P. III	.....	P128
JANSON, A.M.	.....	S43
JOSEPH, M.J.	.....	S45
K		
KATAYAMA, S.	.....	P95
KELLAR, K.J.	.....	S13
KEM, W.R.	.....	P22
KIRSCHBAUM, C.	.....	P121
KNOFF, S.	.....	P88
KNOTT, V.J.	.....	S24
KOMOURIAN, J.	.....	P37
KUBO, T.	.....	P78
KUTZER, C.	.....	P124
L		
LE HOUEZEC, J.	.....	P99
LEE, C.	.....	P137
LEE, L.-Y.	.....	P80
LEISCHOW, S.J.	.....	P110
LENA, C.	.....	S17
LENTZ, T.L.	.....	P17
LEONARD, S.	.....	P49
LEVIN, E.D.	.....	S44
LI, C.G.	.....	P83
LINDSTROM, J.M.	.....	S6
LIPPIELLO, P.M.	.....	S11
LIU, C.-G.	.....	P20
LIU, C.-G.	.....	P69
LORING, R.	.....	P35
LUETJE, C.W.	.....	P13

2048712316

FIRST AUTHOR INDEX

M

MARKS, M.J.	P26
MARKS, M.J.	S10
MARKS, R.	P4
MARTONE, R.L.	P55
MCCOY, J.	P54
MCINTOSH, J.M.	P21
MCLAREN, A.	P81
MCLAREN, A.	P82
MELONI, D.	P105
MIAO, F.J.-P.	P79
MIRZA, N.R.	P92
MUKERJI, J.	P9
MUSEO, E.	P65

N

NAGAI, K.	P93
NAKAMURA, S.	P56
NEWHOUSE, P.A.	S46
NISELL, M.	P74

P

PARKER, G.	P68a
PATRICK, J.	S4
PAULY, J.R.	P30
PERKINS, K.	P111
PERKINS, K.	P114
PIATTONI-KAPLAN, M.	P5
PICKWORTH, W.B.	P123
POMERLEAU, C.S.	P118
POMERLEAU, O.F.	P119
POPKE, E.J.	P104
PRINCE, R.J.	P63
PRITCHARD, W.S.	P113
PUCHACZ, E.	P40
PUCHACZ, E.	P41

Q

QUIK, M.	S19
----------	-----

2048712317

FIRST AUTHOR INDEX

R

RAND, M.J.	P84
RAND, M.J.	P85
ROBINSON, J.H.	S36
ROLE, L.W.	S16
ROSE, J.	P122
ROSE, J.	S32
ROSECRANS, J.A.	S29
ROWELL, P.P.	P42
RUSSELL, M.A.H.	S31

S

SALMINEN, O.	P53
SANBERG, P.R.	S39
SARGENT, P.B.	P1
SARGENT, P.B.	P2
SARGENT, P.B.	P45
SASTRY, B.V.Rama	P125
SCHNEIDER, N.G.	P117
SCHULLER, H.M.	S20
SHARP, B.M.	S21
SHERWOOD, N.	P100
SHOAIB, M.	P61
SHOAIB, M.	P109
SLOTKIN, T.A.	S15
SORENSEN, E.M.	P72
STITZEL, J.A.	P48
STOLERMAN, I.P.	S26
STOUGH, C.	P112
SULLIVAN, J.P.	P25
SULLIVAN, J.P.	P27
SULLIVAN, J.P.	P34
SUMMERS, K.	P68

T

TENG, L.H.	P19
TERRY, A.V.	P57
THOMAS, G.	S38
TRICKER, A.R.	P129

U

ULLIAN, E.M.	P3
--------------	----

2048712318

FIRST AUTHOR INDEX

V

VIDAL, C. P70

W

WARBURTON, D.M. S34

WEAVER, W.R. P71

WEST, R. S35

WHITEAKER, P. P62

WONG, D. P87

WONNACOTT, S. S12

WYPIJ, D.M. P32

X

XIE, Y. P16

Y

YAN, K. P134

YANAGITA, T. S30

YU, Z.J. P10

Z

ZBUZEK, V.K. P103

ZHANG, X. P38

2048712319

LIST OF PARTICIPANTS

2048712320

ABDULLA, FUAD
DEPT. OF PHARMACOLOGY
UNIVERSITY OF ALBERTA
9-75 MED SCI. BLDG
EDMONTON, AB T6G 2H7
CANADA
TEL: 403-492-2643
FAX: 403-492-4325

ADLKOEFER, FRANZ
VERUM FOUNDATION
PETTENKOFERSTRASSE 12
MÜNCHEN, D-80336
GERMANY
TEL: 49-89-5438291
FAX: 49-89-5439078

AGOPYAN, NADIA
DIV. OF NEUROSCIENCE
BAYLOR COLLEGE OF MEDICINE
ONE BAYLOR PLAZA
HOUSTON, TX 77030-3498
USA
TEL: 713-798-5724
FAX: 713-798-3946

ALLEN, ROBERTA
THE SALK INSTITUTE
MNL-H
P.O. BOX 85800
SAN DIEGO, CA 92186-5800
USA
TEL: 619-453-4100
FAX: 619-450-2172

ARNERIC, STEPHEN
NEUROSCIENCE AP 10
ABBOTT LABORATORIES
ABBOTT PARK, IL 60064-3500
USA
TEL: 708-937-0958
FAX: 708-937-9195

AUBERT, ISABELLE
DOUGLAS HOSPITAL RESEARCH CENTER
6875 LASALLE BLVD.
VERDUN, QC H4H 1R3
CANADA
TEL: 514-761-6131
FAX: 514-766-3224

BALDINGER, BEATRICE
SWISS FEDERAL INSTITUTE OF TECHNOLOGY
BEHAVIORAL BIOLOGY LAB.
SCHORENSTR. 16
SCHWERZENBACH, CH-8603
SWITZERLAND
TEL: 01-825-73-29
FAX: 01-825-04-76

BALFOUR, DAVID
DEPT. OF PHARMACOLOGY
UNIVERSITY MEDICAL SCHOOL
NINEWELLS HOSPITAL
DUNDEE, SCOTLAND DD1 9SY
UK
TEL: 44-0382-60111
FAX: 44-0382-67120

BARON, JOHN
BIostatISTICS & EPIDEMIOLOGY
DARTMOUTH MEDICAL SCHOOL
HINMAN BOX 7927
HANOVER, NH 03755-3861
USA
TEL: 603-650-1542
FAX: 603-650-1103

BATTIG, KARL
BEH. BIOLOGY LAB
INSTITUTE OF TOXICOLOGY
SCHORENSTASSE 16
SCHWERZENBACH, CH-8603
SWITZERLAND
TEL: 41-1-825-7416
FAX: 41-1-825-7417

BAUMGARD, MICHELLE
PFIZER CENTRAL RESEARCH
EASTERN POINT ROAD, BOX 0978
GROTON, CT 06340
USA
TEL: 203-441-5431
FAX: 203-441-3783

BENCHERIF, MEROUANE
R.J. REYNOLDS TOBACCO CO.
BLDG 630-2 SHOREFAIR & 32ND STREET
WINSTON-SALEM, NC 27102-1236
USA
TEL: 910-741-0887
FAX: 910-741-5019

BENOWITZ, NEAL
SAN FRANCISCO GENERAL HOSPITAL
1001 POTRERO AVE
SAN FRANCISCO, CA 94110
USA
TEL: 415-206-8324
FAX: 415-206-8949

BENWELL, MAUREEN E.M.
DEPT. PHARMACOLOGY
UNIVERSITY OF DUNDEE MEDICAL SCHOOL
NINEWELLS HOSPITAL
DUNDEE, SCOTLAND DD1 9SY
UK
TEL: 44-0382-60111
FAX: 44-0382-67120

2048712321

BERG, DARWIN
DEPARTMENT OF BIOLOGY
UNIVERSITY OF CALIFORNIA, SAN DIEGO
SAN DIEGO
LA JOLLA, CA 92093-0357
USA
TEL: 619-534-4680
FAX: 619-534-0301

BERTRAND, DANIEL
DEPT. OF PHYSIOLOGY
UNIVERSITY OF GENEVA
1 RUE MICHEL SERVET
GENEVA 4, 1211
SWITZERLAND
TEL: 22-702-5356
FAX: 22-347-3334

BESNER, JEAN-GUY
FACULTY OF PHARMACY
UNIVERSITY OF MONTREAL
MONTREAL, QC H3C 3J7
CANADA
TEL: 514-343-7906
FAX: 514-343-2102

BIENVENU, BRYAN
LSU MEDICAL SCHOOL
1542 TULANE AVENUE
NEW ORLEANS, LA 70112
USA
TEL: 504-568-4097
FAX: 504-568-7130

BIRRELL, CLAIRE
DEPT. OF PHARMACOLOGY
UNIVERSITY MEDICAL SCHOOL
NINEWELLS HOSPITAL
DUNDEE, SCOTLAND DD1 9SY
UK
TEL: 44-382-60111
FAX: 44-382-67120

BITTOUN, RENEE
SMOKERS' CLINIC
ST. VINCENT'S HOSPITAL
DARUNGHURST
SYDNEY, N.S.W 2010
AUSTRALIA
TEL: 61-2-361-2625
FAX: 61-2-331-6763

BLOMQUIST, OLA
DEPT. OF PHARMACOLOGY
GÖTEBORG UNIVERSITY
MEDICINAREGATAN 7
GÖTEBORG, 413 90
SWEDEN
TEL: 46-31-773-34-18
FAX: 46-31-82-17-95

BOOKER, T.K.
9340 W. 100TH CIRCLE
WESTMINSTER, CO 80021
USA
TEL: 303-469-6270
FAX: 303-492-8063

BOUHAJIB, MOHAMMED
FACULTY OF PHARMACY
UNIVERSITY OF MONTREAL
MONTREAL, QC H3C 3J7
CANADA
TEL: 514-343-7906
FAX: 514-343-2102

BOWMAN, BILL
DEPT. OF PHYSIOLOGY AND PHARMACOLOGY
UNIVERSITY OF STRATHCLYDE
204 GEORGE ST.
GLASGOW, SCOTLAND G1 1XW
UK
TEL: 44-41-552-4400
FAX: 44-41-552-2562

BOYD, R. THOMAS
DEPT. OF PHARMACOLOGY
THE OHIO STATE UNIV.
333 WEST 10TH AVE
COLUMBUS, OH 43210
USA
TEL: 614-292-4391
FAX: 614-292-7232

BOYS, SHARON
BAT CO. LTD.
MILLBANK
KNOWLE GREEN, STAINES TW18 1DY
UK
TEL: 44-07-84-460400
FAX: 44-07-84-448654

BUCCAFUSCO, JERRY
DEPT. OF PHARMACOLOGY & TOXICOLOGY
MEDICAL COLLEGE OF GEORGIA
AUGUSTA, GA 30912-2300
USA
TEL: 706-721-6355
FAX: 706-721-2347

BULLOCK, AMY
INSTITUTE FOR BEHAVIORAL GENETICS
UNIVERSITY OF COLORADO
CAMPUS BOX 447
BOULDER, CO 80309
USA
TEL: 303-492-8844
FAX: 303-492-8063

2048712322

BUSKE-KIRSCHBAUM, ANGELIKA
DEPT. OF PSYCHOLOGY
UNIVERSITY OF TRIER
TRIER, 54286
GERMANY
TEL: 049-651-201-3211
FAX: 049-651-201-2934

BYRD, GARY
R.J. REYNOLDS TOBACCO CO.
P.O. BOX 1236
WINSTON-SALEM, NC 27102
USA
TEL: 910-741-2603
FAX: 910-741-5019

CAGGIULA, ANTHONY
DEPT. OF PSYCHOLOGY
UNIVERSITY OF PITTSBURGH
412 LANGLEY HALL
PITTSBURGH, PA 15260
USA
TEL: 412-624-4561
FAX: 412-624-4428

CALDWELL, WILLIAM
R.J. REYNOLDS TOBACCO CO.
P.O. BOX 1236
WINSTON-SALEM, NC 27102
USA
TEL: 910-741-4199
FAX: 910-741-5019

CHAHINE, RAMEZ
FACULTY OF MEDICAL SCIENCES
LEBANESE UNIVERSITY
MUSEUM PLACE
BEIRUT, BP55564
LEBANON
TEL:
FAX: 1-212-478-2365

CHANGEUX, JEAN-PIERRE
NEUROBIOLOGIE MOLECULAIRE
INSTITUT PASTEUR
28 RUE DU DOCTEUR ROUX
PARIS, CEDEX 15 75724
FRANCE
TEL: 33-1-40-61-3124
FAX: 33-1-45-68-8836

CHAVEZ-NORIEGA, LAURA E.
THE SALK INSTITUTE
505 COAST BLVD. SOUTH
SUITE 300
LA JOLLA, CA 92037-4641
USA
TEL: 619-452-5892
FAX: 619-452-9279

CHOLERTON, SUZANNE
DEPT. OF PHARMACOLOGICAL SCIENCES
UNIVERSITY OF NEWCASTLE UPON TYNE
NEWCASTLE UPON TYNE, NE2 4HH
UK
TEL: 91-222-8511
FAX: 91-222-7230

CLARKE, PAUL
DEPT. PHARMACOLOGY & THERAPEUTICS
MCGILL UNIVERSITY
3655 DRUMMOND ST.
MONTREAL, QC H3G 1Y6
CANADA
TEL: 514-398-3616
FAX: 514-398-6690

CLEMENTI, FRANCESCO
DEPT. OF PHARMACOLOGY
UNIV. OF MILANO
VIA L. VANVITELLI 32
MILAN, I-20129
ITALY
TEL: 39-2-70146253
FAX: 39-2-7490574

CODIGNOLA, AGNESE
DEPT. OF PHARMACOLOGY
UNIV. OF MILANO
VIA L. VANVITELLI, 32
MILAN, 20129
ITALY
TEL: 39-2-70146253
FAX: 39-2-7490574

COHEN, BRUCE
DIVISION OF BIOMEDICAL SCIENCES
UNIVERSITY OF CALIFORNIA
RIVERSIDE, CA 92521-0121
USA
TEL: 909-787-2087
FAX: 909-787-5504

COLLINS, ALLAN C.
INSTITUTE BEHAV. GENETICS
UNIV. OF COLORADO
CAMPUS BOX 447
BOULDER, CO 80309
USA
TEL: 303-492-8752
FAX: 303-492-8063

CONNOLLY, JOHN
DEPT. PHYSIOLOGY AND PHARMACOLOGY
UNIV. OF STRATHCLYDE
204 GEORGE ST
GLASGOW, G1 1XW
UK
TEL: 041-552-4400
FAX: 041-552-2562

2048712323

COOPER, ELLIS
DEPT. OF PHYSIOLOGY
MCGILL UNIVERSITY
3655 DRUMMOND ST.
MONTREAL, QC H3G 1Y6
CANADA
TEL: 514-398-4337
FAX: 514-398-7452

CORRIGALL, WILLIAM
ADDICTION RESEARCH FOUNDATION
33 RUSSELL ST.
TORONTO, ON M5S 2S1
CANADA
TEL: 416-595-6751
FAX: 416-595-6922

CROOKS, PETER
COLLEGE OF PHARMACY
UNIVERSITY OF KENTUCKY
ROSE STREET
LEXINGTON, KY 40536-0082
USA
TEL: 606-257-1718
FAX: 606-257-7585

CRUZ, SILVIA
CENTRO DE INVESTIGACIÓN Y EST.
AVANZADOS DEL IPN
APARTADO POSTAL NO. 22026
MÉXICO, D.F., DISTRITO FEDERAL 14000
MEXICO
TEL: 011-525-675-9075
FAX: 011-525-675-9168

CURVALL, MARGARETA
RESERCA AB
STOCKHOLM, S-118 84
SWEDEN
TEL: 46-8-658-0444
FAX: 46-8-668-9777

DAMAJ, M. IMAD
MEDICAL COLLEGE OF VIRGINIA
BOX 980613
MCV STATION
RICHMOND, VA 23298-0613
USA
TEL: 804-828-2070
FAX: 804-828-2117

DAVILA-GARCIA, MARTHA I.
PHARMACOLOGY DEPARTMENT
GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE
ROOM 420 NE
WASHINGTON, DC 20007
USA
TEL: 202-244-6862
FAX: 202-687-6437

DEBETHIZY, DONALD
R.J. REYNOLDS TOBACCO CO.
P.O. BOX 2959
WINSTON-SALEM, NC 27101-2959
USA
TEL: 910-741-2638
FAX: 910-741-7472

deFIEBRE, CHRISTOPHER
DEPT. OF PHARMACOLOGY
UNIV. OF FLORIDA COLLEGE OF MEDICINE
BOX 100267 JHMHC
GAINSEVILLE, FL 32610-0267
USA
TEL 904-392-4857
FAX 904-392-9696

DIXON, DIANE
DEPT. PHYSIOLOGY AND PHARMACOLOGY
UNIVERSITY OF STRATHCLYDE
204 GEORGE ST.
GLASGOW, G1 1XW
UK
TEL: 041-552-4400
FAX: 041-552-2562

DOMINO, EDWARD
DEPT. OF PHARMACOLOGY
UNIVERSITY OF MICHIGAN
BOX 0626, MED. SCI. BLDG. M6414
ANN ARBOR, MI 48109-0626
USA
TEL: 313-764-9115
FAX: 313-763-4450

DONNELLY-ROBERTS, DIANA
NEUROSCIENCE AP 10
ABBOTT LABORATORIES
ABBOTT PARK, IL 60064-3500
USA
TEL: 708-937-0958
FAX: 708-937-9195

DONNY, ERIC
5559 HOBART ST #25
PITTSBURGH, PA 15217
USA
TEL: 412-422-5133
FAX:

DOOLITTLE, DAVID
R.J. REYNOLDS TOBACCO CO.
P.O. BOX 1236, BLDG. 630-2
WINSTON-SALEM, NC 27102-1236
USA
TEL: 910-741-5762
FAX: 910-741-5019

2048712324

DOWELL, RUSSELL T.
UNIVERSITY OF KENTUCKY
COOPER & UNIVERSITY DRIVES
LEXINGTON, KY 40546-0236
USA
TEL: 606-257-3120
FAX: 606-323-1077

DUKAT, MALGORZATA
MCV/VCU
BOX 980540
RICHMOND, VA 23298
USA
TEL: 804-786-1062
FAX: 804-371-7404

DWORKIN, STEVEN
DEPT. OF PHYSIOLOGY & PHARMACOLOGY
BOWMAN GRAY SCH. OF MEDICINE
MEDICAL CENTER BLVD.
WINSTON-SALEM, NC 27157-1083
USA
TEL: 910-716-6852
FAX: 910-716-7738

DWOSKIN, LINDA
COLLEGE OF PHARMACY
UNIVERSITY OF KENTUCKY
ROSE STREET
LEXINGTON, KY 40536-0182
USA
TEL: 606-257-4743
FAX: 606-257-7564

EL-BIZRI, HIBA
DEPT OF PHARMACOLOGY & THERAPEUTICS
MCGILL UNIVERSITY
3655 DRUMMOND ST
MONTREAL, QC H3G 1Y6
CANADA
TEL: 514-398-3616
FAX: 514-398-6690

ELGOYHEN, ANA
THE SALK INSTITUTE FOR BIOLOGICAL STUDIES
10010 NORTH TORREY PINES RD
LA JOLLA, CA 92037
USA
TEL: 619-453-4100
FAX: 619-450-2172

ELLIS, CATHY
PHILIP MORRIS U.S.A.
P.O. BOX 26583
RICHMOND, VA 23261-6583
USA
TEL: 804-274-4845
FAX: 801-274-3982

ELMENHORST, HINRICH
ROTHMANS CIGARETTEN GMBH
BLEICHENBRUECKE 10
HAMBURG, 20354
GERMANY
TEL: 040-35907-324
FAX: 040-35907-333

FAGERSTRÖM, KARL
PHARMACIA AB
CONSUMER PHARMA NICORETTE
BOX 941
HELSINGBORG, S-251 09
SWEDEN
TEL: 46-42-10-4458
FAX: 46-42-10-4333

FITZGERALD, JAMIE
DEPT. OF ANESTHESIA
UNIV. OF CALIFORNIA
513 PARNASSUS AVE, BOX 0542
SAN FRANCISCO, CA 94117
USA
TEL: 415-476-1412
FAX: 415-476-8841

FORNASARI, DIEGO
CNR-CENTER OF CYTOPHARMACOLOGY
VIA VANVITELLI 32
MILAN, 20129
ITALY
TEL: 2-70146266
FAX: 2-7490574

FRANZON, MIKAEL
PHARMACIA INC
800 CENTENNIAL AVENUE
PISCATAWAY, NJ 08855-1327
USA
TEL: 908-457-8380
FAX: 908-235-2235

FRAZER, ANDREW
DEPT. OF PHYSIOLOGY
MCGILL UNIVERSITY
3655 dRUMMOND ST.
MONTREAL, QC H3G 1Y6
CANADA
TEL: 514-398-4337
FAX: 514-398-7452

FREEDMAN, ROBERT
DEPT. PSYCHIATRY C-268-71
UNIV. OF COLORADO HEALTH SCIENCES
4200 E NINTH AVE
DENVER, CO 80262
USA
TEL: 303-270-8403
FAX: 303-270-5347

2048712325

FUNG, ERIC
COLLEGE OF DENTISTRY
UNIVERSITY OF NEBRASKA
40TH AND HOLDREGE STREETS
LINCOLN, NE 68583-0740
USA
TEL: 402-472-6816
FAX: 402-472-6681

FUXE, KJELL
DEPT. OF NEUROSCIENCE
KAROLINSKA INSTITUTET
STOCKHOLM, S-171 77
SWEDEN
TEL: 46-8-728-6400
FAX: 46-8-337-941

GHELARDINI, CARLA
DEPARTMENT OF PHARMACOLOGY
VIALE G.B. MORGAGNI, 65
FLORENCE, I-50134
ITALY
TEL: 39-55-4237432
FAX: 39-55-4361613

GLENNON, RICHARD
MCV/VCU
BOX 980540 MCV STATION
RICHMOND, VA 23298-0540
USA
TEL: 804-786-8487
FAX: 804-371-7404

GOERIG, MATTHIAS
UNIV. ERLANGEN-NÜRNBERG
KONTUMAZGARTEN 14-18
NÜRNBERG, 8500
GERMANY
TEL:
FAX:

GOPALAKRISHNAN, MURALI
NEUROSCIENCE AP 10
ABBOTT LABORATORIES
ABBOTT PARK, IL 60064-3500
USA
TEL: 708-937-0958
FAX: 708-937-9195

GORDON, JOHN
FISONS
P.O. BOX 1710
ROCHESTER, NY 14603-1710
USA
TEL: 716-274-5577
FAX: 716-272-3910

GRADY, SHARON
INSTITUTE OF BEHAVIORAL GENETICS
UNIVERSITY OF COLORADO
CAMPUS BOX 447
BOULDER, CO 80309-0447
USA
TEL: 303-492-8844
FAX: 303-492-8063

GRUNBERG, NEIL E.
DEPT. OF MEDICAL AND CLINICAL PSYCHOLOGY
4301 JONES BRIDGE ROAD
BETHESDA, MD 20814-4799
USA
TEL: 301-295-3270
FAX: 301-295-3034

HABICHT, J. CITO
BIRKHÄUSER PUBLISHERS
KLOSTERBERG 23 P.O. BOX 133
BASEL, CH-4010
SWITZERLAND
TEL: 271-7400
FAX: 271-7666

HAGHIGNI, ALI
DEPT. OF PHYSIOLOGY
MCGILL UNIVERSITY
3655 DRUMMOND ST.
MONTREAL, QC H3G 1Y6
CANADA
TEL: 514-398-4337
FAX: 514-398-7452

HAJOS, MIHALY
DEPT. OF CLINICAL PHARMACOLOGY
UNIVERSITY OF OXFORD
RADCLIFFE INFIRMARY, WOODSTOCK ROAD
OXFORD, OX2 6HE
UK
TEL: 44-865-224524
FAX: 44-865-791712

HALEY, NANCY
METLIFE LABORATORIES
4 WESTCHESTER PLAZA
ELMSFORD, NY 10523
USA
TEL: 914-347-3251
FAX: 914-347-6338

HASENFRATZ, MARKUS
BEHAVIORAL BIOLOGY LAB, ETHZ
INSTITUTE OF TOXICOLOGY
SCHORENSTR. 16
SCHWERZENBACH, 8603
SWITZERLAND
TEL: 01-825-73-17
FAX: 01-825-04-76

2048712326

HASHIM, GEORGE
THE COUNCIL FOR TOBACCO RESEARCH
900 THIRD AVE
NEW YORK, NY 10022
USA
TEL: 212-421-8885
FAX: 212-421-8898

HEISHMAN, STEPHEN
NIDA ADDICTION RESEARCH CENTER
P.O. BOX 5180
BALTIMORE, MD 21224
USA
TEL: 410-550-1547
FAX: 410-550-1849

HELLER, WOLF DIETER
ANALYTISCH-BIOLOGISCHES FORSCH.
GOETHESTRASSE 20
MÜNCHEN, D-80336
GERMANY
TEL: 0228-444589
FAX: 0228-444126

HENNINGFIELD, JACK E.
NTL. INST. DRUG ABUSE
ADDICTION RESEARCH CENTER
P.O. BOX 5180
BALTIMORE, MD 21224
USA
TEL: 410-550-1530
FAX:

HINDMARCH, IAN
HUMAN PSYCHOPHARMACOLOGY
ROBENS INST.
UNIV. OF SURREY
GUILDFORD, GV2 5XH
UK
TEL: 44-483-418453
FAX:

HIRAMATSU, MASAYUKI
DEPT. OF CHEMICAL PHARMACOLOGY
FACULTY OF PHARMACEUTICAL SCIENCES
150 YAGOTOYAMA, TENPAKU-KU
NAGOYA, AICHI 468
JAPAN
TEL: 81-52-832-1781
FAX: 81-52-834-8780

HIRATA, KOICHI
DEPT. OF NEUROLOGY
DOKKYO UNIVERSITY SCHOOL OF MEDICINE
MIBU, TOCHIGI 321-02
JAPAN
TEL: [REDACTED]
FAX: [REDACTED]

HOLLADAY, MARK
NEUROSCIENCE AP 10
ABBOTT LABORATORIES
ABBOTT PARK, IL 60064-3500
USA
TEL: 708-937-0958
FAX: 708-937-9195

HÖLLT, VOLKER
FYSIOLOGISCHE INST.
UNIV. OF MUNCHEN
PETTERN SHO FERTR.12
MÜNCHEN, 8000-2
GERMANY
TEL: 49-89-543-8291
FAX: 49-89-543-9078

HOUDI, ABDULGHANI
TOBACCO & HEALTH RESEARCH INSTITUTE
UNIVERSITY OF KENTUCKY
COOPER & UNIVERSITY DRIVES
LEXINGTON, KY 40546-0236
USA
TEL: 606-257-4694
FAX: 606-323-1077

HSU, YEA-NAN
DEPT. OF PHARMACOLOGY & THERAPEUTICS
UNIV. OF FLORIDA
12901 BRUCE B. DOWNS BLVD
TAMPA, FL 33612-4799
USA
TEL: 813-974-2543
FAX: 813-974-3081

HUGHES, JOHN
DEPT. OF PSYCHIATRY
UNIVERSITY OF VERMONT
38 FLETCHER PLACE
BURLINGTON, VT 05401-1419
USA
TEL: 802-660-3065
FAX: 802-660-3065

JACOB III, PEYTON
UNIVERSITY OF CALIFORNIA
BLDG 100, RM 235 SFGH
SAN FRANCISCO, CA 94110
USA
TEL: 415-282-9495
FAX: 415-206-5080

JANSON, ANN-MARIE
DEPT. OF HISTOLOGY
KAROLINSKA INSTITUTET
STOCKHOLM, S-104 01
SWEDEN
TEL: 46-8-728-6400
FAX: 46-8-216689

2048712327